PAN AMERICAN fisherman

ESTABLISHED 1947

December 1953

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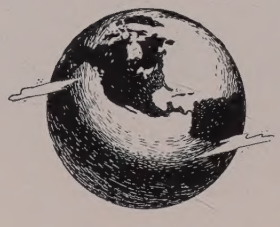

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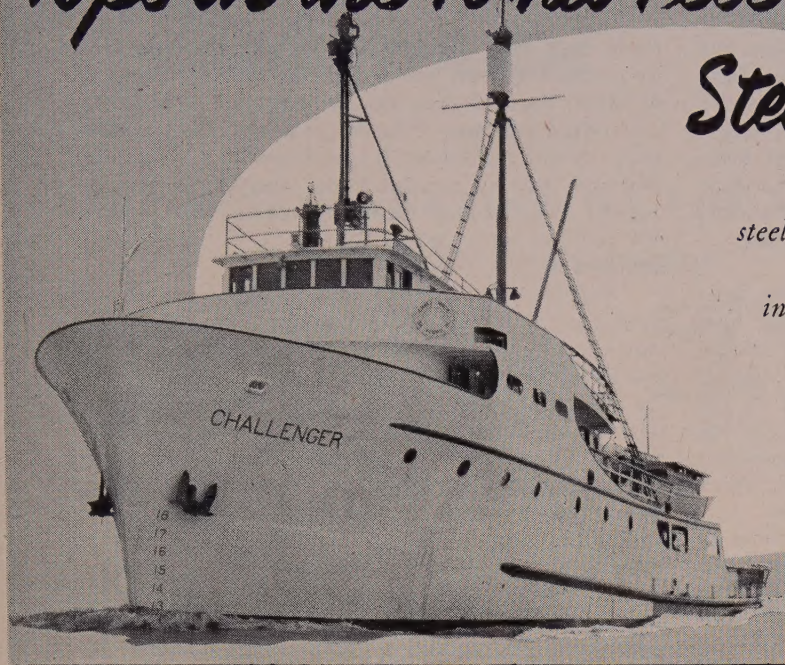

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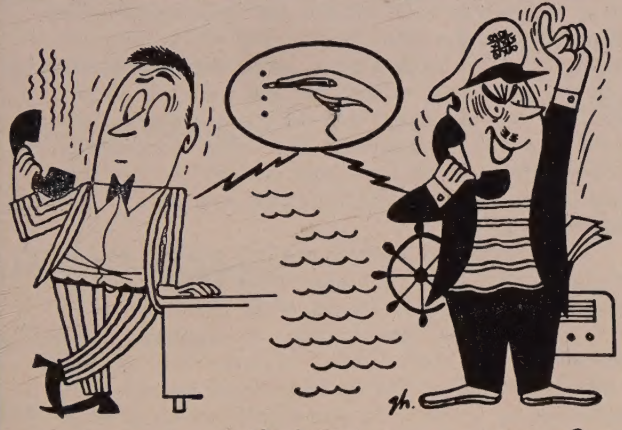

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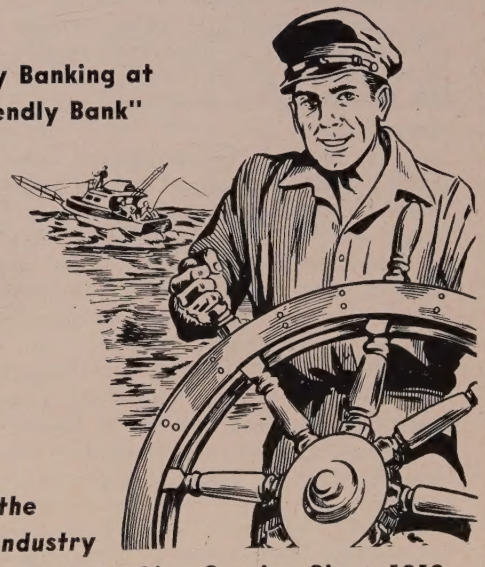

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EDITORIAL . . . Safety at Sea

SAFETY at sea is a combination of human and physical factors. These factors have been thoroughly and completely discussed at international conferences called for that purpose, dealing specifically with the merchant marine. The very fact that these conferences have been held shows that the maritime nations of the world recognize the need to constantly review and improve the factors for safety at sea.

Conference

However, until the International Fishing Boat Congress of 1953, no conference previously held dealt specifically with the improvement of hull design, equipment, operation, and safety at sea of vessels and crews occupied in the fishing industries of the world. This in spite of the fact that some nations subsist wholly on the revenue derived from fishing and in many others fishing is a major industry which contributes greatly to the economic welfare.

Many thousands of men devote their lifetime to following the sea as fishermen. Their lives and the happiness of their families hinge directly on the safety of their vessels, their equipment, and their own safety techniques in their work.

Investment

It has been authoritatively reported that in the United States the capital sum of over ten billion dollars is invested in its fisheries industries alone. Between 45 and 50% of this amount is invested in boats and their gear; the remaining amount is devoted to many and varied operations ashore which are necessary in the manufacturing and marketing of the products involved. Therefore the floating equipment is the most important part of the U.S. industry . . . probably also in other nations of the world, where fishing is an important industry, in about the same proportion as here regardless of the total amount of capital assets involved.

Losses

In Southern California, the home of the tuna fishing fleet, the loss of fishing vessels and equipment has reached staggering figures. These financial losses are of such magnitude that they have resulted in international discussions in the insurance underwriting world and involve the threatened possibility of the underwriters completely dropping fishing vessels as insurable risks.

While much already has been said and published regarding the physical and financial losses of both equipment and life in the fishing industry, little has been done to help those who own and operate the vessels in an effort to prevent continued excessive losses. At the instigation of vessel owners, fleet managers, surveyors, naval architects, underwriters and others, Pan American Fisherman magazine will present a series of articles by qualified and competent persons closely associated with the fishing industry . . . in an attempt to build a mutually beneficial fellowship between the people in allied pursuits ashore and the men who own and sail the vessels. Such a relationship should go far toward solving the basic loss problem which has so adversely affected the most vital part of this industry.

Design

Potential fishing vessel owners naturally desire to construct capable boats with which to pursue their trade as a step toward their own and their community's advancement, but sometimes due to language or racial barriers they do not succeed in obtaining the competent type of technical advice they deserve. They should recognize the availability of qualified technical men to counsel them, whereas all too frequently they accept technical advice from sources not quilified to render it.

Equipment

For the most part the ship's equipment aboard fishing craft is of very good quality . . . although in many cases it is not well maintained and will deteriorate rapidly, thus reducing the overall safety factor. On the other hand, fishing gear is almost always the best to be found in the particular area of activity of the vessel and it is generally well maintained because of its importance to the livelihood of the men who use it and who, usually, regard the fishing equipment with more concern than they do the vessel itself and its fixed equipment.

In the past, safety equipment meeting only the minimum standards has been carried aboard the majority of fishing vessels. No authorized agency has ever established requirements for proper and adequate safety equipment to be carried. Even labor organizations have disregarded the safety of their members in this respect . . . and the lives of the crew, and the financial positions of owners and underwriters have been neglected.

The observance of minimum safety and fire protection standards has satisfied most owners, because they have never actually experienced the inability to find a ready insurance market for their vessels. For many years independent marine engineers, surveyors and equipment suppliers have advocated the use of more positive safety equipment and methods aboard ship. This would necessitate rigorous training programs and other expenses, and little cooperation has been forthcoming from boat owners because they could see no personal financial gain from it.

Underwriters

Underwriters as a group are in a position to correct this situation by the very nature of their service and their potential ability to make demands which boat owners could not ignore. A division in this strength on the West Coast, however, has resulted in some underwriters failing to endorse requirements originated by others . . . and rightly so since all of the requirements have not reflected sound engineering fundamentals.

Whatever may be said of the commercial fishing industry and its shortcomings, this industry is here to stay and we who are a part of it must all strive to improve and protect it. Since the greatest capital investment in the industry is in the boats and their equipment, a well developed training program for the vessels' crews seems highly desirable.

Considerable work in the preparation of such a program has been done and it is our feeling that insurance underwriters, owners, vessel commodity suppliers and others who enjoy substantial income from the fishing fleets should willingly aid such efforts. Certainly the results of an adequate training program would afford good returns to its sponsors.

ROBERT K. LAWSON

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BRIANT SANDO—Editor and Publisher

Associate Editor
ROBERT K. LAWSON

Advertising Manager
FRED W. WALTERS

BRANCH OFFICES

WASHINGTON 6, D. C.
744 Jackson Place, N.W.
JOHN HARMS
Telephone National 8-4123

SAN DIEGO 1, CALIF.
206 Broadway Pier Bldg.
ROBERT K. LAWSON
Telephone Franklin 7328

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About This Issue . . .

Popularity of tuna with the consuming public is indicated by various material in this issue . . . starting with the account of National Tuna Week, and the 50th anniversary of tuna canning in California, on page 6.

*

A new "magic number" is 2186 kc. It is the "New Calling and Distress Frequency," page 11 tells its usefulness.

*

More facts about "Salvage Operations on Fishing Vessels," are in Part 2 of Bill Miller's article, page 12. This ties into Bob Lawson's Editorial on "Safety at Sea" (page 4) and the "Keep 'em Fishing" program (page 14) to be sponsored throughout 1954 by Pan American Fisherman

*

Crystal gazers to the contrary, a study of the past is one of the best guides to the future. Hence we present "Past, Present, Future" on page 16. E. L. Morris knows what he is talking about, being Director of the Tuna Research Foundation, Long Beach, California.

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50th Anniversary, Plus National Tuna Week

LAST month held double significance for the United States tuna canning industry, for not only did the canners celebrate the 50th anniversary of this industry but also National Tuna Week—a time each year of special promotion on tuna sales.

The first tuna cannery began operations back in 1903 in San Pedro, California, and operated on fish supplied by boats fishing in local waters. The pack that first year amounted to 700 cases.

The tuna canning industry (48 canneries) in 1952 packed about 9,100,000 cases, valued at $113,000,000. The United States tuna fishing fleet numbers about 3,900 craft and fishes mainly in waters from the Central Pacific to the warm waters off South America.

National Tuna Week, November 4-15, was sponsored by the Tuna Research Foundation, Long Beach, California, and stressed "Tuna from California." Trade advertisements appeared in nationally-distributed grocer and food-merchandising journals, newspapers, magazines, radio and TV. Point-of-sales material, including recipe pads and attractive display materials with tie-in advertising on other food items, also was furnished to retail outlets.

The U. S. Fish and Wildlife Service, through its school-lunch demonstration program, uses at least one service-prepared and tested tuna recipe at each demonstration. To date, there have been more than 600 such demonstrations attended by over 30,000 school-lunch cooks and managers in 33 states.

In observance of National Tuna Week, FWS released as its recipe of the month, Tuna Waldorf Salad. Copies of this recipe were distributed to the more than 800 home economists, food editors, and restaurant and institutional dieticians throughout the United States that have requested this regular recipe service.

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Boat Financing Plans

Outside financing is becoming increasingly important to the fishing industry as boats and equipment become more costly and operations extend farther from port, according to an executive of a leading finance company.

R. S. Murphy, vice president of C.I.T. Corporation, the nation's largest industrial finance firm, at the recent meeting of the Gulf and Caribbean Fisheries Institute outlined two major methods of financing the fishing industry: (1) contracts handled through dealers or yards and (2) financing handled directly with the fishermen.

"The largest volume of our fishing vessel financing is done through dealers or yards," Murphy said. "In these cases, the dealers or yards decide whether the credit of the fisherman is acceptable. They know him personally, they know his skill as a fisherman, the port from which he operates, the grounds he probably will work and how he will dispose of his catch. They also decide what the down-payment will be and what terms of repayment will be set."

The usual terms, he pointed out, call for a downpayment of at least 25% of the purchase price with the balance to be paid in 36 monthly instalments, although longer terms often are arranged.

The financial institution discounts the dealers' or yards' transactions, replenishing the sellers' supply of cash.

In dealing directly with the fishermen, Murphy said, there are only two general types of requests which the financial institution cannot answer.

"Naturally," Murphy said, "we cannot handle financing that requires progress payments during construction of a vessel. The industrial financing agency needs a complete, documented vessel as security at the time its funds are disbursed. And we cannot finance a captain who has no other boats or property, no previous history as an owner, and no partners or endorsers."

"Except for such cases," Murphy said, "the established captain has boat and equipment financing readily available."

In addition to financing complete boats, Murphy pointed out, the industrial financing company also arranges terms for financing new engines or for replacing or adding various types of mechanical and electronic gear.

"The fisherman often does this by giving the financing firm a mortgage on the vessel he owns," Murphy explained. "Usually the vessel, with the new equipment added, has sufficient value to make a downpayment on the equipment unnecessary."

Murphy said his firm also assists the fishing industry in the financing of machinery and equipment for handling, processing, preserving, packing and transporting the catch after it is brought to port.

"Financial institutions recognize that opportunities lie in growing industries," Murphy said. "Our objective is to aid in their growth."

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Report from **Washington**

Gleaned from the Nation's Capital by John Harms

FISHING RIGHTS.--Just how the tidelands oil act will affect your fishing privileges in territorial waters continues to be debated in high Washington circles. Nobody knows for sure exactly how fishermen will be affected by the law which turned off-shore oil rights over to California, Texas and other States.

But there are some signs that present rights may be threatened. For example, Canada is apparently quite disturbed about it. C. Gordon O'Brien, manager of the Fisheries Council of Canada, recently led a delegation of Canadian fish officials to Washington to protest to the Tariff Commissioner against proposed restrictions of Canadian fish entering this country.

O'Brien warned the Commission that if planned restrictions go into effect . . . our neighbor to the north may retaliate by extending its national control of fishing farther out to sea. Canadians figure that if we can extend our control over oil rights farther out to sea, they can do the same with regards to fish.

Any such move by Canada would shut out rich fishing waters to American trawlers now fishing as close as three miles off the Canadian coast.

--o--

EISENHOWER'S STAND.--President Eisenhower has denied the request of three senators for a proclamation re-affirming the traditional policy of "free fishing rights on the high seas outside the three mile limit." The legislators who urged Ike to make such a strong statement were Sens. Daniel (D, Tex.), Holland (R., Fla.), and Saltonstall (R., Mass.).

The President decided not to make a proclamation on the subject of fishing rights at this time, we are informed, because of the fact that the tidelands oil legislation gives coastal States in the Gulf of Mexico freedom to establish claims to territorial boundaries in excess of three miles from the coast.

This, the President said in a letter to the Senators, "has a vital effect on the position of this Government with respect to claims to exclusive fishing rights by other countries." The present law, Ike indicated, makes it impossible for the Administrator to make any changes --at least right away.

Ike's letter, however, was careful to point out that if our traditional position on free fishing rights has been jeopardized, it has not been by any change in policy by the White House or by the United States courts. Any trouble we may get into about fishing rights, apparently is being officially blamed on the tidelands oil law.

Aside from the tidelands legislation, the President said "It will continue to be the policy of the United States to assert the right of its

nationals to engage in fishing on high seas outside of the three mile limit for territorial waters."

While the President made this statement in a letter to the Senators, he says he does not think the time is ripe for him to make a public statement along those lines. This is because the question of whether tidelands law is legal is being studied by the Supreme Court.

A spot check here indicates that fishing interests do not regard the President's letter as being particularly reassuring. On the other hand, they apparently recognize the spot Ike is in since the entire question of free fishing rights was tossed into the tidelands oil fracas after the law was passed and apparently without much thought about how it would affect fishing.

--o--

SUPREME COURT & TIDELANDS.--The Supreme Court has given the Administration 40 days in which to present objections to a suit by the State of Alabama challenging the constitutionality of the tideland oil law.

Alabama has asked the High Court to declare the law unconstitutional on grounds that it threatens, among other things, the "free" fishing rights of Alabama fishermen beyond the three-mile limit off the coasts of Texas, Florida and Louisiana.

Alabama contends that Texas, Florida and Louisiana already are preparing to require license fees for fishing in the Gulf of Mexico beyond the three miles from shore line . . . and that these States even are claiming the "right to exclude non-residents altogether."

Odd thing about it is that while the President apparently sees the tidelands oil law may have some effect on fishing rights, the Administration finds itself in the position of fighting against the Alabama suit in the courts. While the tidelands legislation was passed as an Eisenhower campaign pledge, the Administration is learning that it's not all beer and skittles.

--o--

FISHERIES INSTITUTE VIEWS.--Spokesmen for the National Fisheries Institute see the tideland law as "an open invitation to all nations to extend their territorial jurisdiction out to ten and a half miles."

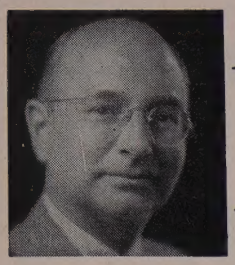
As far back as last April, the Institute foresaw that in addition to the trouble we might run into with other countries on fishing rights, we would be having squabbles between the States.

This is the way the Institute put it: ". . . While Uncle Sam will try to maintain our historical position of three miles seaward as our territorial jurisdiction under international law, we may find ourselves confronted with fisheries disputes at home.

"Can you imagine the confusion which would be created by Florida denying Alabama fishermen the right to fish within 10 and a half miles off her shore while Florida fishermen could legally fish up to within three miles of Alabama?"

If that sounded comical and almost impossible back in April, it is much less funny now because that is exactly what is going on.

(Continued on page 25)



The Publisher's Page . . .

"It is good to have money and the things money can buy; but it's good, too, to check up once in a while and make sure you haven't lost the things money can't buy."

—George Horace Lorimer

Happy Holidays!—Again it is the time of year when we like to say to all our readers, Merry Christmas and Happy New Year. We hope this Holiday Season will be the best you've ever had, and the New Year will be the most productive and profitable so far experienced.

Along with such wishes, perhaps a bit of the philosophy of life would not be amiss. Accordingly we started off this page with a quotation from a publisher who became famous some years ago with the Saturday Evening Post. It was sound sense then and it is sound sense today.

Especially at year-end we like to do some reflecting on life . . . on the past, present, and future of ourselves, our business, our country. Personally, we've had our ups and downs over the years—but more ups than downs. The same applies to this industry and to our country—for all of which we should be exceedingly grateful. Life and business are not always that proverbial bowl of cherries, but they also provide much more than vinegar if we just do our part.

Some folks like to sit and think of how much money they've got. Others sit and think of how much they need but haven't got. Still others just sit. Now at year-end is a good time to think about the activities that lie ahead in 1954—things that, if we do our part properly, will lead not only to money but to good will and friendships and "the things money can't buy."

A Modern Aesop Fable.—In one of his fables, entitled "The Farmer and the Snake," Aesop tells about a farmer who upon finding a snake stiff and half frozen foolishly placed it in his compassionate bosom.

The snake, thawed by the warmth, resumed its natural instincts, bit its benefactor and inflicted a mortal wound. Breathing his last, the farmer said, "I am rightly served for pitying a scoundrel."

This story is suggested by the current crop of news about communists in high places in the U.S. government. This evil infiltration has been going on longer, and higher up, and in greater numbers than the average citizen suspected.

McCarthy may be rough on certain people, but the government as a whole has been too soft for about 20 years with this whole problem. So the natural evening up process is now under way. Of course it will hurt a few people . . . but otherwise we would all get hurt—every one of us, our government and our way of life, too. Hence, in the long run, the present rumpus seems sure to do more good than harm.

The Troubles of Mr. Benson.—The Secretary of Agriculture is experiencing some of the same stresses and strains common to the tuna industry. Basically, the problem is how to pay a high price to the producer (so he can live well) and still keep costs reasonable to the ultimate consumer (so he can live well).

Benson has been between the devil and the deep blue sea on this problem, for prices had already started to decline when he took office. As the slide continued it looked as though Benson's life in government would be short and not very sweet.

But you've got to give the guy credit—he stood pat on his farm policies and now the tide seems to be turning in his favor. Bluntly stated, he wants every commodity to stand or fall on its own merits in an open market. That's free enterprise and that's the policy this country must come back to—or eventually admit we prefer government control and go Socialistic.

As long as the staple crops are subsidized (such as wheat, corn, butter and eggs) many others will want "benefits" too. The present administration is trying to work out a program in the best interests of all the people—producers and consumers alike. But it ain't easy nor quick . . . as the tuna industry well realizes.

Small Fry Are Important.—Today's children are tomorrow's customers. If they are trained to like fish when they are young, it is likely their fondness for products-of-the-sea will carry on as they become heads of families.

According to FWS surveys, this tendency in the eating habits of men was well confirmed in the Armed Forces during and after World War II.

The government's school lunch program also has added evidence along the same line. Until a few years ago there was a widespread feeling that children did not like fish and would not eat it willingly at school. Actual tests, however, show that if fish is prepared properly and served attractively school children will not only eat it but acquire a liking for it. In every one of the 26 states where this program has been tried, fishery products are now served more often and enjoyed by more children.

The moral, as applied to the tuna industry, seems to be: Start 'em eating tuna when they're young; they'll keep it up . . . and help business for all of us.

Fisherman's Luck.—We just returned from a few days of bass fishing on Lake Mead. Our party of 11 all brought back the limit; we just hope our luck in all directions will be as good in the New Year. Reminds us:

A clergyman accompanied by two charming girls stood admiring the beautiful stream. An angler passing by said, "Any luck?"

"Sir," replied the parson with dignity, "I am a fisherman of men."

"Well," retorted the fisherman, glancing admiringly at the girls, "you have the right bait."

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2182 kc

New Calling and Distress FREQUENCY

By NEY R. LANDRY

Engineer in Charge—San Diego Office
Federal Communications Commission

DESPITE widespread distribution of an FCC information bulletin on the calling and distress frequency of 2182 kc, it appears that many ship radio-telephone users in the 1600-3500 kc band have little or no knowledge of this frequency, and its proposed use.

On May 1, 1953, by international agreement to which the United States is a party, the frequency 2182 kc became an international calling and distress frequency for radio stations authorized to operate in the maritime mobile telephony service.

Effective on and after January 1, 1954, each ship station and each public coast station licensed to transmit by telephony on one or more frequencies within the band 1600-3500 kc shall, *during its hours of service*, maintain an efficient watch on 2182 kc, *except* when such station is being used for transmission on that frequency or for communication on other assigned radio frequencies.

With respect to ship stations on board vessels when within 300 nautical miles of Charleston, South Carolina; Jacksonville, Florida; or Wilmington, California; or within 600 nautical miles of Vancouver, British Columbia, these requirements shall become effective on or after January 1, 1954, only when specifically ordered by the Commission.

January 1 Deadline

Federal Communications Commission Rules relating to 2182 kc require that each ship station which (1) Is first licensed after January 1, 1954, for telephony on any radio channel within the band 1600-3500 kc; or (2) Is authorized by license modification granted after January 1, 1954, to use additional or substitute radio apparatus for telephony on any radio channel within the band 1600-3500 kc; or (3) Is authorized by license renewal granted after January 1, 1955, for telephony on any radio channel within the band 1600-3500 kc shall be capable of transmitting and receiving on 2182 kc.

Existing licensed stations in the above band which do not add or substitute equipment prior to January 1, 1955, are not, prior to that date, required to be capable of transmitting on 2182 kc. However, such ship stations must, effective on and after January 1, 1954, maintain an efficient watch on 2182 kc as outlined above.

Meaning to Radio Operators

Federal Communications Commission rules also provide that: Except when other operating procedure is used to expedite Safety Communications, or is established in advance by and between the stations concerned, ship stations, before transmitting on the intership radio channel 2638 or 2738 kc, shall first establish communication with each other by initially calling and answering on the calling channel 2182 kc. This requirement will be effective on and after January 1, 1954, except that for ship stations on board vessels when within 300 nautical miles of Charleston, South Carolina; Jacksonville, Florida; or Wilmington, California; or within 600 nautical miles of Vancouver, British Columbia, this requirement shall become effective on or after January 1, 1954, *only when specifically ordered by the Commission.*

Here is what the new frequency means to the radio operator. First of all, you have been provided with an international distress and calling frequency. Safety of life and property at sea is the primary purpose of radio communications. At present, whenever a vessel is in distress, the operator uses one of several frequencies in an attempt to obtain help.

Frequently, when trying to use the intership frequencies of either 1638 or 2738 kc for distress purposes, other stations carrying on routine communications cause considerable interference and prevent efficient communications have absolute priordespite the fact that distress and communications have obsolute priority on all frequencies. Now, when 2182 kc is in full force, anyone in distress can call for help on this frequency and all stations keeping watch within range will hear the call and be of assistance.

Similarly, the availability of 2182 kc as a common calling frequency on which other ships will be listening should facilitate the establishment of communications on 2638 and 2738 kc. Routine communications *will not* be permitted on 2182 kc. Remember, everyone will be required to keep a continuous watch on this frequency, except as previously noted.

Transmissions by ship stations on 2182 kc (including calls, answers, operating signals, and communications pertaining to safety) shall be kept to a minimum, and in general, any one exchange of communications shall not exceed three minutes in duration. In the event of distress or other emergency, this time limitation shall not apply.

Questions and Answers

Following are answers to questions most likely to be asked with regard to the use of 2182 kc frequency:

Q. Why isn't 2182 kc for calling and answering permitted in all coastal areas?

A. Harmful interference would exist to the present ship-to-shore frequency of 2174 kc. Eventually, the frequency 2174 kc for ship-to-shore use will be replaced in order to eliminate this interference. Appropriate

(Continued on page 22)

This yacht went aground under full rig.

SALVAGE OPERATIONS *On Fishing Vessels*

By WILLIAM C. MILLER

Wm. C. Miller & Associates
Marine Surveyors & Marine Engineers
San Diego, California

PART TWO of article started in last issue

Strandings

The major portion of commercial salvage operations is formed by stranded ships. In the fishing industry this is true because of the fact that fishing vessels operated in confined baiting waters where depth decreases rapidly and accidents involving stranding occur.

For this reason the fishing vessel crews should be doubly alert to prevent such accidents and they should also be well versed in the technique involving successful salvage of stranded ships.

Numerous factors influence strandings and those to be considered during salvage are the bottom under the ship, its slope, the depth of water around the stranding, the area of the ship's bottom that is in contact with the ground, the ship's draft, loading and its stability in addition to structural strength. When a ship runs aground under its own power or is forced ashore by wind or tide, it has headway and headway drives it over the bottom on which it strands.

When this happens some bouyancy is lost and the bottom supports a portion of the ship's weight. Therefore, the basic factor in refloating the vessel becomes one of bouyancy. The bouyance lost must be regained; this can be done either by dragging the ship to deep water, by removing the ground under the ship so that it will regain its normal draft, or by removing sufficient weight to allow the ship to float at a shallower draft.

The amount of lost bouyancy when a ship strands is easily computed for it is equal to the value of the tons per inch of the ship involved multiplied by the number of inches which the mean draft lost when the vessel ran ashore. The bouyancy value thus obtained is approximately correct and sufficient for use by the people directing salvage provided the ship has not suffered damage which has caused her to ship water and to lose weight from her cargo and/or fuel or oil supplies. If weight has been lost the value of lost bouyancy should be corrected accordingly. A value of lost bouyancy thus computed is equal in tons to the amount of the ship's weight which is supported by the bottom.

Another important factor to be considered in strandings is the location of the center of gravity of the pressure exerted on the vessel by the ground, since it indicates the pivotal point around which the ship might swing as a result of natural influences working upon it while it is grounded. Once this position has been calculated, anchors, lines, and/or towing vessels can counteract the action of the elements to hold the ship in the safest, most practical attitude while other operations are being conducted.

Exact coefficents of friction between a ship's bottom and material ordinarily found in the composition of a beach are not available; to the author's knowledge no explicit tests to develop such data have been conducted. Each stranding case offers too many conditions peculiar to the individual situation for such data to be of valuable use. Approximate rules have been developed by salvors from actual experience and they have been used with success for many years and the crews and officers of fishing vessels should be familiar with them.

It is estimated that a pull equal to 30% of the lost bouyancy is needed to move a ship stranded on smooth sand beach with a uniform surface and normal slope; 50% of the lost bouyancy is considered necessary for a ship stranded on hard pan or heavy gravel; 60% to 80% for ships stranded on coral; and from 80% to 150% for ships stranded on rock.

These estimates are true only in situations where calm conditions exist and they can sometimes be reduced if proper swells are running at the time of making a pull or conditions of vibration can be produced in the bottom under the ship. Vibrations sometimes may be set up by the operation of the ship's machinery or it might also be realized by other vessels pulling or wrenching the vessel on the end of a towline.

Mr. Miller is a Member of the Society of Naval Architects and Marine Engineers, and a past president and national director of the N.A.F. He has been a licensed airplane pilot for 23 years, and now uses his own plane in directing salvage and engineering operations.

Successful salvage operations in the case of strandings have also been effected when an artificial swell has been created by small craft operating in the close vicinity or by explosives detonated under the water. Only highly trained personnel should attempt the use of explosives however.

Many times in discussing salvage operations of stranded vessels with men in the fishing fleet, the erroneous assumption that bottom friction is in actuality suction, has been introduced. Suction is encountered only when strandings occur on mud or silt formations and such formations are generally not found off-shore or in the vicinity of sandy beaches. They are common in rivers and harbors.

When ships are stranded at low water and are likely to settle on mud banks, it is generally advantageous to drag a hogging line of chain or cable along under the keel or to jet water under pressure under the vessel in order to break down the suction prior to refloating while the vessel is settling and also while bouyancy is being regained when the tide rises.

An airplane crash landing in barren, rough, terrain where salvage was a real problem.

Tugs or other towing vessels are invariably called upon when stranding occurs to pull on the stranded ship. If the ship is lightly aground or if the expected tide rise appears to be sufficient to restore lost bouyancy, the use of tugs is well justified; there is strong probability under these conditions that tugs or towing vessels will save the ship. The use of tugs is justifiable if the ship is only partly aground, or if it is alive to the action of swells.

Tugs are of no benefit and serve no useful purpose as tugs when the ship ashore is hard aground. They may supply men and equipment to the scene only. Generally speaking, as relates to tow line pulling of stranded vessels, we may expect to move one ton per 100 h.p. of the towing vessel's propulsion machinery. Thus the average 500 h.p. vessel in the fishing fleet will develop a pull of only 5 tons when so rigged.

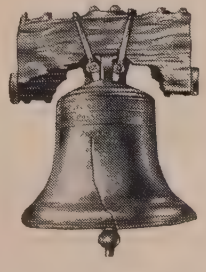
Most effective of all methods used for removing strandings is the application of beach gear. This is an arrangement by which a powerful pull can be developed by a series of anchors planted off-shore and connected to the stranding with large diameter wire cables or heavy lines. A heavy strain is obtained in the cables by connecting them to purchase gear laid out on the deck of the stranded vessel and operated by the ship's winches. Beach gear when arranged can consist of numerous sets.

The space on board the ship and power equipment used is the only restricting factor. This method is often combined with lightening the ship of whatever needed shifting of weights or ballast is required. Successful removal of strandings with beach gear is often aided by jacking or scouring.

Jacking operations are conducted by the use of heavy jacks placed properly under the ship's sides to raise her, while the scouring operation is the result of water flow induced by the operation of the ship's propellers or by a tug or tugs, or other vessels, properly secured alongside so that the propellers wash will scour the desired area.

There are many other methods of refloating stranding and much written data is available from which the interested reader can gain a wealth of information regarding all types of marine salvage.

Basically the need for salvage operations is ever a disheartening experience to vessel owners and one no owner of fishing craft or other type vessel looks forward to. Sound planning, rigorous training of crews and good vessel maintenance will prevent the need for owners and other interested parties suffering the experience of salvaging their vessels and undergoing resultant heavy financial losses. *



Sardine Situation

The California Fish and Game Commission has asked that the 1954 special session of the Legislature "consider a statute conferring upon the Commission the authority to regulate the taking of sardines for all purposes."

In a resolution directed to the Governor and legislators, the five-man board stated that "present statutory controls are inadequate to insure a recovery of the fishery, and only strict regulation of catches adjusted to meet changes in the amount of the supply offers any hope for the future of this important industry."

Commissioners pointed out that "the industry once contributed millions of dollars to the economy of the State. It was not only important to the persons engaged in the processing and commercial fishing industry but provided great quantities of bait for our recreational fisheries and food for game fishes."

Under present laws, the Fish and Game Commission has a say only on the total annual amount of whole sardines that are reduced into commercial oils and meals by reduction plants. In the last decade, this has amounted to about 25% of the entire sardine catch. Reduction by canning plants and all other sardine fishing and processing laws are Legislative matters.

For the 1953-54 fishing season, the Commission has banned the reduction of whole sardines.

Tons of Tuna

California's tuna fishermen delivered just under 15,000 tons of tuna to the State's canneries during September, according to preliminary figures compiled by the marine fisheries branch of the California Department of Fish and Game.

About 30,000 tons were delivered in August.

Included in the September total were 5,000 tons of albacore, 900 tons of bluefin, 5,500 tons of skipjack, and 3,500 tons of yellowfin. The fishermen also brought in 250 tons of yellowtail and 42 tons of bonito.

Mackerel tonnages amounted to 151 for Pacific mackerel and 1,600 for jack mackerel. About 3,200 tons of anchovies went to the canneries.

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EBB 'n FLOW

Automatic Boat Bailer

The first automatic boat bailer in outboard motor history highlights the Scott-Atwater motors for 1954. Called the "Bail-A-Matic," it will keep a boat dry as long as the motor is running, whether in forward, neutral or reverse. The bailer will be standard built-in equipment on the entire Scott-Atwater line with the exception of the smallest motor. The bailer, with the motor idling, is capable of pumping a gallon of water a minute; maximum capacity is more than 150 gallons an hour.

Self-Starter for Outboards

A new outboard motor, with a built-in electric starter that the makers predict will do for outboard boating what the electric starter did for the automobile, has been announced by Evinrude Motors.

The new motor, a 25-horsepower unit called the Evinrude Big Twin Electric, no longer depends on the starter cord used in earlier outboards. Instead, an auto-type starter driven by an electric motor and operated by a push button in a small panel on the dash starts the motor at the touch of a finger.

Chris-Craft Marine Engines

Chris-Craft's array of new 1954 marine engines includes engines ranging from 60 to 160 horsepower. Nine different horsepower ratings and 13 reduction drives are offered in an assortment of power plants.

Designed exclusively for marine use, all Chris-Craft engines are built to provide a maximum of power in a minimum of space with a low weight-per-horsepower ratio, factors that are very important in this industry.

With Chris-O-Matic, a new electric-hydraulic gear shifting mechanism, the man at the wheel simply flips a selector, much as he would flip a light switch, and instantaneously an electric motor pumps hydraulic fluid into a cylinder to actuate a piston which accomplishes the desired shift. This control can be installed on most Chris-Craft engines already in operation. It can also be hooked up for dual control installations.

Bludworth Electronic Equipment

Bludworth Marine, one of the pioneer manufacturers of electronic navigational equipment is exhibiting many new products this year as well as some of the standard favorites, at the New York Motor Boat Show, January 15-22, 1954.

Among them may be mentioned the self-contained Port Pilot Direction Finder, selling under $200; the Three Band Direction Finders featuring the exclusive "Nuldikator" type of meter presentation; the Standard-Six Direction Finder, a precision instrument especially designed for long range bearings on smaller craft.

Radar for pleasure craft, fishing vessels and tugboats, now available through Bludworth Marine, will be displayed for the first time along with the Kelvin-Hughes Stress and Trim Finder which shows safe distribution of load on vessels at sea.

New Light-weight Diesel

A new marine engine, said to be the lightest weight per horsepower of any marine Diesel now being produced in the 80 to 125 continuous horsepower range, has been announced by the Cummins Engine Company, Inc., Columbus, Indiana.

The JMS-600 Cummins Marine Diesel weighs only 21.1 pounds per rated horsepower when completely assembled with reverse and reduction gear, heat exchanger, electrical equipment and all other accessories necessary for a complete work boat application. It will develop 123 flywheel horsepower at 2200 rpm for continuous duty applications, such as fishing and work boats.

Radar for All

"Big Ship" type radar now is available for small vessels in a new version of the famed "Mariners Pathfinder," states Raytheon Mfg. Co.

The peril of collision in fog or darkness—major hazard to vessels threading their way through crowded harbors or along rocky coasts—is reduced through the magic of this new electronic device.

"Big Ship" radar, with its rotating antenna and all-seeing eye is no longer confined to Navy ships and other large, ocean-going vessels, but is available at moderate cost for use on fishing vessels, workboats, and similar craft.

Standby Electric Plants

Three models of marine electric generating plants will be shown by D. W. Onan & Sons Inc., Minneapolis, Minnesota, at the 1954 National Motor Boat Show in January. Two are gasoline-driven models, 1,000 and 1,500 watts, while the third is a Diesel-driven generating plant of 3,000 watts capacity.

Both the full Diesel engine and the direct connected generator are completely Onan-built, incorporating every practical safety feature.

Holiday Greetings

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View in a modern tuna cannery

The American Tuna Industry . . .

Past, Present, Future

By E. L. MORRIS

AMERICAN tuna packers will can about a half billion cans of the food fish this year. This figure is more than ten thousand times as much as the first pack which was processed only 50 years ago.

In 1903, one cannery and a few fishing vessels were responsible for the first 700 cases processed at Los Angeles. Today the retail value of the 1953 pack is estimated at approximately 160 million dollars.

The history of canned tuna in this country is a short one. But, the industry which is currently observing its 50th anniversary, has grown by leaps and bounds.

Although tuna had long been well known to southern California fishermen, it was not at first regarded as a food fish. West Coast canneries were primarily engaged in packing sardines and other fish varieties plentiful in Pacific waters. When, in 1903, the sardines failed to appear and a crisis confronted both the fishermen and the canners, Albert P. Halfhill, now recognized as the "father of the tuna industry," began canning other California fish, among them tuna.

Tuna Becomes Big Business

The tuna industry really came into its own during World War I when the food shortage and economic stress created a demand for a protein-rich food. Tuna was the answer . . . and canneries all along the California coast began packing it in substantial quantities.

Before long, fishermen in the ports of San Diego and San Pedro were fishing primarily for tuna. They found the tuna a swift-swimming fish of the tropical, sub-tropical and temperate oceans of the world; a fish that spawns its eggs on the high seas. When the eggs hatch, the young float at the mercy of the currents while they are developing. As the young grow into adults, they school together in large formations which move rapidly from place to place searching for food.

The tuna feeds voraciously, swims with great speed, and covers long distances. In no way bound to the land, the tuna is truly a creature of the open ocean.

There are three primary types of skipjack and the albacore. However, tuna caught today: the yellowfin, the until 1926, the fishery was based almost entirely upon albacore, a bullet-shaped tuna of snow-white flesh and bland flavor that grows to the size of 55 to 60 pounds. In that year, there began one of those long-term cyclic changes in oceanographic conditions which occur off southern California. The warmer currents from the south invaded the in-shore area, and suddenly the albacore disappeared completely from the coastal waters.

Different Kinds of Tuna

But, with the warmer weather came new kinds of tuna . . . the yellowfin and the skipjack. Both fish have light flesh, rosy pink in color, and with a richer, fuller taste than albacore. The skipjack variety average between 5 and 15 pounds in weight, while the yellowfin range up to 250 pounds.

With the steady growth of the market, the need for a more stable supply of product arose. And, for the can-

A purse seine boat at work . . . so named because the large net is spread out between boats and then closed up like a purse, with the catch inside.

neries, a more stable supply of raw material was necessary. It was found that yellowfin and skipjack tuna are found in the whole area from southern California to northern Peru, a 3,500 mile stretch.

This necessitated a revolutionary change in the fishing fleet which heretofore had consisted of small boats capable of venturing only a few miles from port for trips of a day's duration. Adaptations were effected in the design of the vessels . . . and the tuna clipper was born.

The tuna clipper could travel 10,000 miles before returning to port. It could remain away for 120 days or more. It could carry a load of tuna ranging from 50 to 500 tons. And, most important of all, the size of the vessel provided space for the quantity of auxiliary machinery necessary for keeping the fish under solid refrigeration.

War and the Tuna Fleet

This transformation in the fishing fleet, which had taken place gradually during the 30's, was sharply interrupted by the outbreak of war in the Pacific. The effect upon the industry was immediate and almost catastrophic. The tuna clipper was precisely the vessel the Navy wanted for the job of supplying the troops in the isolated islands of the South Pacific. Some of the tuna clippers were taken directly from the fishing grounds and sent to the war zone.

In the course of a few short months, 60% of the vessels of the fleet were in the service of Uncle Sam. At the time of the Battle of Midway, the remainder of the fleet of tuna clippers were put to sea under Navy command as a screening force to prevent a surprise attack on the West Coast or the Panama Canal.

The production of tuna fell sharply. However, the situation was saved by the small boats which immediately began to fill the enormous demand for the food fish. With new talents, new experience and increased activity came much new information.

First of all, it was ascertained that the albacore had not disappeared after all. The fish had returned and could be caught within 20 to 200 miles off the coast of North America . . . and it could be caught in heavy commercial quantities. It wasn't long before almost every small-boat skipper along the Pacific Coast had become an albacore fisherman.

The small-boat fleet had undergone many changes in the more than a decade and a half since the albacore had vanished from the inshore areas of California. The boats were now seaworthy enough to go out as far as 500 miles, where equipped with radio, long-range navigational equipment, etc. So . . . while the war lasted, the albacore fleet met the tuna demand.

It wasn't until 1948, three years after the war ended, that the tuna clipper had recovered sufficiently from their war losses to once again become the main producers of tuna. With the return of the larger boats, yellowfin and skipjack tuna reappeared on the market. At the present time, these two species comprise about 85% of the total tuna caught.

The Tuna Clippers

There are now more than 200 high seas tuna clippers in operation. Together, they account for more than 70% of the yellowfin and skipjack landings. The clippers, which range in length from 65 to 150 feet, are sturdy craft equipped with refrigerated holds for brine-freezing the fish at sea. They carry crews from 9 to 18 men, and are capable of voyages of more than 10,000 miles and trips lasting as long as 3 to 4 months.

Fishing on the clippers is done with unbarbed hooks and lines and

(Continued on page 24)

Standing on the racks lowered to water level, these tuna fishermen are using a pole and line to which an unbarbed hook is attached. A tuna clipper manned with 12 fishermen can land as much as 60 tons of fish during a five to six hour period.

From a small beginning the Hart & Burns business in marine paints has now expanded into this modern, streamlined plant in Riverside, California.

SUCCESS STORY

By JIM SMUTZ

ONE of the biggest success stories to come out of the marine field in the past ten years concerns the paint manufacturing organization of Hart and Burns, Inc. The main manufacturing plant is located in Riverside, Calif., but there are Hart and Burns outlets established throughout the world. The trade names of "Navicote" and "Durahart" have become synonymous with well-conditioned marine craft wherever boatmen gather.

Many boat owners and others connected with the marine industry have asked: What makes Navicote so popular? How in the world did they ever develop such a paint? Is this anti-fouling paint as good as users claim?

In order to answer these questions, we sent a reporter to the Hart and Burns factory at Riverside. He investigated the research department, manufacturing prodecures, the testing facilities and the general atmosphere of the operation.

This business was the brainchild of two men, Arthur E. Burns, Jr., and L. A. Hart. Burns had helped the U.S. Navy develop a marine finish that kept Navy vessels in the water for longer periods than ever possible before. In many cases, the warship was able to stay out of dry-dock for more than two years without excessive fouling.

Burns is recognized as one of the world's leading marine chemists and was awarded the Distinguished Civilian Service Citation by Secretary of the Navy James Forrestal for his contributions to the war effort . . . often considered on a par with the development of radar and the invention of the proximity fuse.

L. A. Hart, then 33, was president of several major Texas business corporations. He was graduated from Yale in 1936 and later completed post-graduate work at the Harvard School of Business Administration.

The Riverside plant was established in early 1947, thus opening the next chapter in the Hart and Burns story. The popularity of their marine paints became so wide-spread that the firm had to look for larger quarters. A new site was chosen and the rapidly-expanding organization moved into the new buildings last year.

The Navicote "SM," which is an abbreviation for "Soluable Matrix," is effective with the most prolific fouling organisms in all waters of the world. The chemical reaction of "S.M." is continuous, lasting the entire life of the coating. Release of the copper toxic is controlled at a steady, uniform rate by the specially formulated matrix.

Navicote copper has an extremely smooth, hard, high-gloss surface that provides a minimum of frictional resistance. Because of its complete fouling protection, this low frictional resistance is maintained, insuring maximum speed with minimum fuel consumption. The paint is nontoxic to humans, can be either brushed or sprayed, and dries rapidly. Its bright red color when applied turns, after a few weeks in the salt water, to a blue-green color.

Ordinary anti-fouling paint provides protection until the poison particles dissolve. After the surface poison disappears, the protection stops and barnacles form. Navicote Copper dissolves at the same rate as the poison—which keeps poison on the surface continuously, and provides complete and lasting protection against marine fouling.

Starting with anti-fouling marine paints, this company also has entered the household and industrial fields. Distributed under the trade name of "Durahart," these paints are rapidly becoming "best sellers" in many markets. Specialized paint chemists are constantly working so the consumer gets up-to-the-minute developments incorporated into every order turned out.

For example, there was need for a special paint that would stand up under extreme heat conditions and still maintain the original gloss; a large construction company was looking for a special smoke-stack paint. The Hart and Burns laboratory developed one that would withstand 1800° F. . . . and still hold its original covering quality and gloss. This H and B High Heat Silicone enamel is now being produced in quantity.

The "success" story is not completed yet . . . for this progressive firm will not be coasting on its reputation. The managerial reins are in the hands of young and energetic officers who are constantly striving to improve their product and to increase the scope of world-wide operations.

Co-founders L. A. Hart and Arthur E. Burns, Jr., are President and Vice President, respectively. Earl Huston, Jr., is Vice President in charge of sales and Robert G. Landry is Secretary of the Corporation. These four executive officers are all less than 40 years of age. ★

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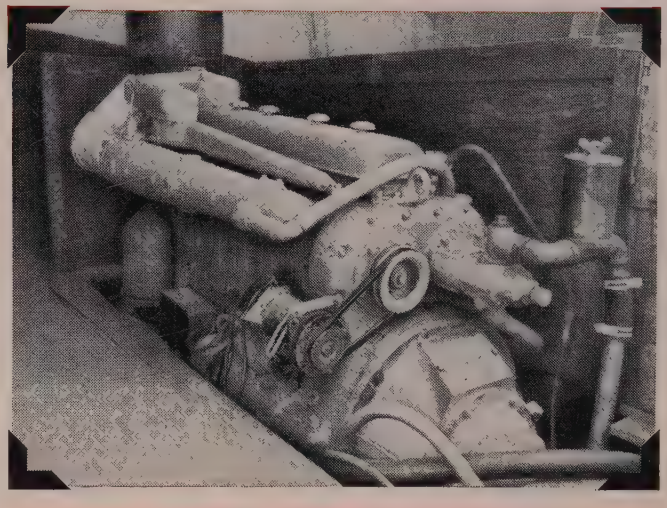
STANDARD ENGINEER'S REPORT

DATA

LUBRICANT	RPM Delo Oils
UNITS	Heavy-duty engines—diesel and gasoline
SERVICE	Fishing boats
CONDITIONS	Constant load
FIRM	H & M Sportfishers, Inc., San Diego, Calif.

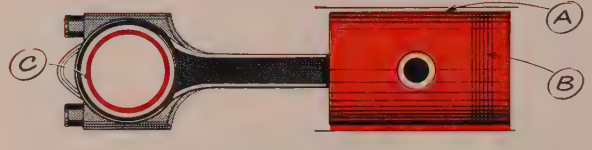
One engine overhaul in 3 years on 8-boat fleet!



RPM DELO HEAVY DUTY LUBRICATING OIL is used in all boats operated by H & M Sportfishers, Inc., San Diego —a total of 12 engines ranging from 225 H.P. diesels in the "Worrier VII" (above) to a 60 H.P. gasoline unit. In 3 years of regular fishing-party service in coastal waters, only one engine required major repairs. Although this engine worked 5600 hours, only sleeves and pistons were replaced.

S. HOWARD MINOR, (right) Vice President and General Manager says, "RPM DELO Heavy Duty does such a good job of holding down repairs for us that I wouldn't consider even trying another oil."

How RPM DELO Oils keep engines clean and prevent wear



A. Contain special additives that provide metal-adhesion qualities...keep oil on parts whether they are hot or cold, running or idle.

B. Anti-oxidant resists deterioration of oil and formation of lacquer...prevents ring-sticking. Detergent keeps parts clean, helps prevent scuffing.

C. Special compounds stop corrosion of any bearing metal, and oil foaming in both wet and dry sump engines.

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TRADEMARK "RPM DELO" REG. U.S. PAT. OFF.

STANDARD OIL COMPANY OF CALIFORNIA

The purse seiner Clermont, decorated by "Canco," was a prizewinner in the sponsored division of the annual San Pedro Fiesta water parade.

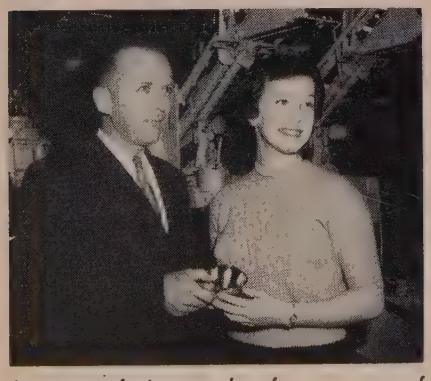
FIVE BILLION CANS

By WILLIAM A. PRAGER

SOMETIME this year the five-billionth can of California-packed tuna was opened by one of the millions of American housewives who now serve the popular seafood regularly.

A brief but spectacular history lies behind that can. In the relatively short span of half a century, tuna has emerged from a food nonentity to become the most popular canned fish in the United States.

In 1903, the first 700 cases of albacore were packed in San Pedro, Calif. Yet, before the industry had reached its Golden Anniversary this year, canned tuna had become California's most important single food pack, valued at more than $99,000,000 annually.



A can-manufacturer and a former queen of Fiesta hold what could be the five-billionth can made for California-packed tuna. The symbolic container got its picture taken with Joanne Sullivan and R. K. Frederick, manager of American Can Company's Wilmington factory, as part of festivities surrounding the 50th anniversary of tuna canning this year. Tuna, first canned in San Pedro in 1903, is now California's most important single food pack, valued at more than $99,000,000 a year.

Last year, canneries along California's coast packed more than 8,000,000 cases of tuna—87.5% of the nation's entire pack.

An Up and Coming Youngster

Until 1903, tuna was virtually unknown. But when the sardines failed to run that year, one San Pedro canner put up an experimental pack of the white meat of albacore. The initial pack was followed by other small but increasing packs until 1911 when orders began to multiply. That year, two canneries—in San Pedro and San Diego—together put up 20,000 cases.

By 1912, there were five canneries and the pack totaled nearly 80,000 cases. The following year nine canneries packed 128,000 cases, and by 1915 twelve canneries had invested $900,000 in buildings and equipment to can tuna.

California's pack of tuna first exceeded 1,000,000 cases within a single year in 1925. In 1930, the pack totaled almost 2,000,000 cases and 10 years later, the figure had climbed to 3,868,000 cases, a record that was to stand for five years. Due to wartime restrictions placed on fishing grounds and ports, the requisitioning of boats for military use and the manpower shortage, packs fell under the 3,000,000-case mark from 1941 through 1945.

The 1946 pack of more than 4,500,000 cases started a new upward surge that first passed the 8,000,000-case mark in 1950.

California's tuna canning industry now comprises 32 plants operated by 24 companies in San Diego, Monterey, San Francisco and San Pedro. The bulk of the pack is produced in the San Pedro and San Diego districts. Last year, San Pedro (Terminal Island) had entrenched itself as the tuna canning capital of the world with a total pack of 5,403,410 cases. San Diego's share of California's big pack was 2,402,551 cases, with the remainder of the total pack

Queen of the 1953 San Pedro Fishermen's Fiesta is shown with the 20-ft. "Tin Can Man."

of 8,102,821 cases coming from Central California plants.

Reduced to individual containers, the growth of California's tuna-canning industry during its 50 years is reflected in a comparison of the first pack and the most recent pack:

1903—16,800 cans
1952—403,000,000 cans

Fifty Years of Growth

The growth of California's fishing industry paralleled that of the canners. Until 1918, the tuna fishing area was limited to lower California waters, but the following year Turtle Bay, 500 miles south of San Diego, became a center for a number of barges serving as supply stations from which large refrigerator boats transported the catch to California.

By 1923, one-half of the tuna landed came from Mexican waters as the area was extended and larger boats came into use. Later, the tuna clipper was developed, and since the end of World War II, California fishermen have followed tuna almost to Cape Horn.

Today, the tuna fleet numbers about 3,820 vessels with a replacement value of $97,000,000. Some 200 clippers, based at San Diego, fish south to Peru for yellowfin and skipjack. The 170-boat purse seine fleet, based at San Pedro, operates to the Galapagos Islands off Ecuador and accounts for all of the bluefin and bonito, plus some yellowfin, skipjack and albacore. The 3,500 smaller boats in the albacore fleet are based at all West Coast ports and fish from Mexico to British Columbia.

The tremendous growth of tuna canning required the ingenuity and production know-how of another important industry—the can manufacturers. Without metal containers the tuna industry would have found it difficult—if not impossible to market fish from Pacific waters throughout the world. Ninety per cent of all the fish caught commercially by California fishermen wind up in cans.

Modern Miracle of Cans

At the turn of the century, can-making was a relatively new manufacturing activity. When American Can Company was formed in 1901, container-making machines were rated at only 60 cans a minute. By 1916, when Canco's Los Angeles factory opened to supply containers to the fish canners of Southern California as well as packers of other types of food products, speed of production had increased to 200 cans per minute.

Today, Canco plants in Los Angeles, Wilmington and San Diego operate can-making lines capable of producing up to 450 cans a minute, much faster than a person can count.

This increase in production speed, geared to the requirements of the canning industry, is but one phase of American Can's continuing program of research and development which has been a substantial factor in spurring the growth of California's tuna canning industry.

Many of the basic developments in canning stem from the company's central research laboratories at Maywood, Illinois. These laboratories—the largest of their kind in the world—are staffed by about 275 trained technicians and scientists whose chief objective is to develop new and better containers and to work out new canning techniques capable of keeping pace with production.

The tremendous post-war growth of tuna canning brought about the construction of Canco's plants at San Diego and Wilmington. The San Diego plant began operations on July 1, 1946, and the Wilmington factory opened to serve the San Pedro area in September, 1951. Together, these new, modern plants are capable of producing 500,000,000 cans a year—more than 1952's total production of California-packed tuna.

These plants have aided the industry by producing better containers and stepping up production to keep pace with the needs of Southern California's fish canners. Even at today's remarkable can-making speeds, each container is precision-made with all the care and close tolerances of modern machinery.

In its Golden Anniversary year, California's tuna canning industry has achieved a place in the forefront of industry in the Golden West. Following are current statistics on the industry in the two principal centers of tuna canning:

San Pedro Area:

Fishing fleet (tuna and other species)	
number of boats	2,400
value of fleet	$50,000,000
number of fishermen	6,000
Canneries (tuna and other species)	
number operating	17
value	$108,000,000
employment	8,000
Pack statistics—1952 (tuna only)	
cases	5,403,410
value	$66,461,943
cans required	about 270,000,000

San Diego Area:

Fishing fleet (tuna and other species)	
number of boats	300
value of fleet	$50,000,000
number of fishermen	3,000
Canneries (tuna and other species)	
number operating	four
value	$4,000,000
employment	3,000
Pack statistics—1952 (tuna only)	
cases	2,402,551
value	$29,551,277
cans required	about 120,000,000

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2182 kc Frequency

(Continued from page 11)

notices will be given when this change is to take place.

Q. Just what is meant by "hours of service" when it is required to maintain an efficient watch on 2182 kcs? Can other frequencies be monitored, if more than one receiver is available?

A. The time that you turn on your radio equipment until the time the equipment is turned off. During this time, with the exceptions noted elsewhere, it will be required on and after January 1, 1954, that you maintain a continuous receiving watch on 2182 kc whenever the station is not being used for ship-to-shore communications. If more than one receiver is available on your vessel, it is permissible to listen to other radio channels as well, but the operation of the receiver on other than 2182 kc must not interfere with the efficient reception of signals on 2182 kc.

Q. Must we now discontinue the use of the Coast Guard frequency 2670 kc?

A. On May 1, 1953, Coast Guard stations in several areas commenced guarding 2182 kc (in addition to 2670 kc) for distress purposes. Eventually, as an increasing number of Coast Guard and other stations guard 2182 kc. use of frequency 2670 kc will be de-emphasized.

Q. The Commission Rules provide that "except when other operating procedure is used to expedite safety communications or is established in advance by and between stations, ship stations, before transmitting on the intership frequencies 2638 and 2738 kc, shall first establish communication with each other by initially calling and answering on 2182 kc." How do we determine if initial calling should be on 2182 kc or can be accomplished on 2638 or 2738 kc?

A. If it is known by prior arrangement that the ship station you desire to communicate with at a particular time is listening to 2638 or 2738 kc, as well as 2182 kc. and that contact will be established without excessive calling, it would be permissible to call that station on either 2638 or 2738 kc. Otherwise, the initial calling and answering must be on 2182 kc.

You are being provided with an additional frequency, which, if used sensibly and within the rules and regulations, will eliminate a lot of interference by stations calling each other on 2638 or 2738 kc, and provide more effective use of these frequencies for essential ship business. Furthermore, it will provide you with a frequency to obtain needed assistance in time of distress or other emergency.

You, the radio operator, *and only you,* can assure the usefulness and the effectiveness of the frequency 2182 kc. *Do your part.* ★

Haldor A. Dahl Dies

The industry lost one of its leading figures in the death last month of Haldor A. Dahl at his home in Tacoma, Wash. He was co-owner with Arne Strom of the Pacific Boat Building Co. in Tacoma, and of the Harbor Boat & Yacht Co. in San Diego.

Mr. Dahl's passing at age 50 followed an extended illness. He was born in Norway, October 1903, and came to the United States 20 years later. He formed a partnership with Strom in 1936. They have built many mine sweepers for the government and hundreds of commercial vessels, with numerous ones in the fishing industry.

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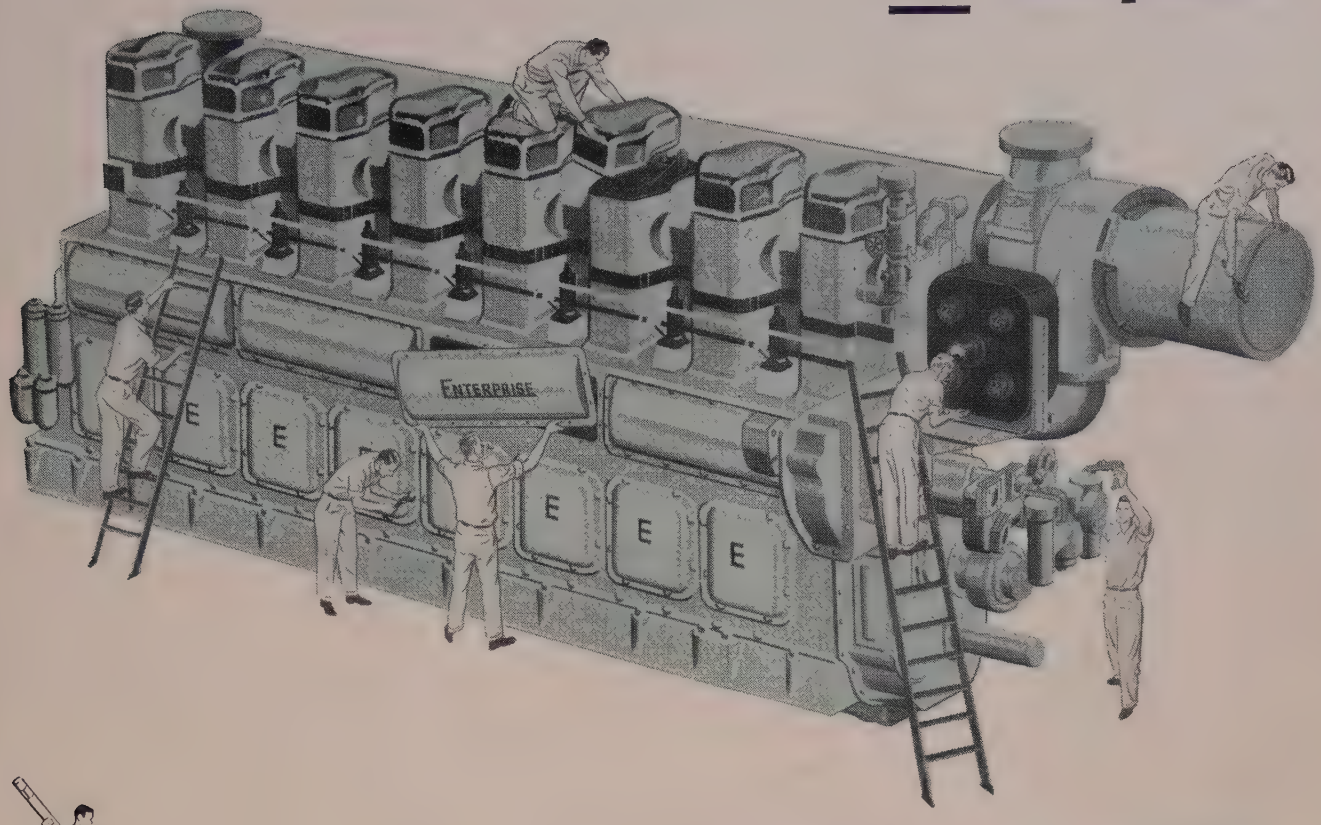

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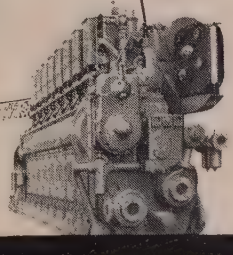

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Past, Present, Future

(Continued from page 17)

live bait. Each clipper carries its own bait boats, usually two skiffs and one motor boat. The bait, which is primarily a sardine-like fish called the anchovetta, is caught in seines and stored in wells on the clipper until ready to use. Two hundred pounds of bait comprise the average requirement for each ton of tuna caught.

Once a school of tuna is sighted, a fisherman called a "chummer" dips out the live bait and throws it overboard to attract the fish. The tuna strike and the fishing begins.

The fishermen stand on racks lowered to water level. This allows for additional leverage when hauling up the tuna. All the fishing is done with pole and line to which the barbless hook is attached. Feathery lures are attached to each line. As soon as the fish bites, the line is whipped back and the tuna flies off the hook into the boat.

To cope with the different weights of tuna, a multiple pole fishing system is used. For fish up to 35 pounds a one-man pole is sufficient. For 35-60 pounds, two poles with a common leader and one hook are used. The 60-100 pound category requires three poles. And, for fish over one hundred pounds, four poles are used. The fish are referred to as 1, 2, 3 or 4 pole fish.

Purse Seiners and Albacore Boats

Two other types of boats comprise the remainder of the tuna fishing fleet. They are the purse seiners and the albacore fleet.

There are about 170 purse seine vessels based at San Pedro, Calif. Purse seining is a method of fishing in which large nets are employed to capture the fish. The net is towed by means of small row boats in a circle around the school of tuna. A heavy chain loops through the net and acts as a drawstring to enclose the fish in a purse-like pocket . . . hence, the term "purse seining." This fleet is most active during the months when the fish swim in schools. Since their cruising range is limited, they are confined primarily to areas near the coast.

In addition to the tuna clippers and the purse seiners, the small albacore boats operate along the shoreline of the United States. Two methods of fishing are used in the albacore fleet . . . trolling and bait fishing with bamboo poles. Vessels range in size from 25 to 60 feet. The smaller boats have one or two men in the crew and fish by the trolling method. Boats over 40 feet may have from 2 to 5 men in the crew. About 3,500 vessels were engaged in this phase of the tuna fishery.

The Bait Problem

The tuna industry is making rapid strides and the per capita consumption of tuna is increasing annually, yet problems are constantly arising as in most other industries. Bait is currently a headache.

Anchovetta, the most satisfactory type of bait for use on tuna clippers, is caught in the waters off some of the Central and South American countries, and is taken largely within their territorial waters. This requires, of course, that our boats must conform with the laws of the countries in whose territorial waters they propose to take bait and requires also that substantial license fees be paid.

Further complications result from the expansive claims of some of the Central and South American countries as to the extent of territorial

(Continued on page 27)

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(Continued from page 8)

HALIBUT.--Look for a higher Pacific halibut yield as the result of an agreement between the U.S. and Canada. The formal title of this agreement is the Convention for the Preservation of the Halibut Fishery of the Northern Pacific Ocean and Bering Sea.

A yield improvement is bound to come, officials say, but it may take a while. The pact permits establishment of more than one open season during the year. In addition, it calls for opening up halibut stocks not now fully utilized.

--o--

MORE JAP TUNA.--During the six months from April through September, the Frozen Food Exporters Union says imports of frozen Japanese tuna soared to almost twice as much as during a similar period the year before. Japan exported 28,600 tons of frozen tuna to the U.S. during those six months this year, compared with 15,600 tons a year earlier.

The Union gives two reasons for the big jump: (1) A decrease in the U.S. tuna catch this year, and (2) Application of lower American tariff rates due to a switch-over from oil-packing to brine packing by many Japanese exporters.

Exports of canned tuna to this country from the Far East during the same period ran to 960,000 cases from 823,000 cases a year earlier.

Japanese tuna men predict they'll ship a total 33,000 tons of frozen tuna and 1.5 million cases of canned stuff to this country during the year ending next March. This compares with 24,000 tons of frozen, and 1.1 million cases of canned shipped here last year.

--o--

SALMON TRAPS.--Watch for an all-out effort to outlaw "salmon traps" in Alaska during the next session of Congress beginning next month.

The traps are being blamed for the disaster which has struck the Alaska industry. The traps catch virtually all the salmon in their vicinity . . . little as well as big . . . thus cutting severely into the future salmon supply.

Salmon States and Canada prohibited salmon traps years ago for the very same reason. But Alaska, as an American territory and not a State, must have the appoval of Congress before it can outlaw the traps. The Truman Administration failed to get through a Congressional resolution abolishing traps in Alaska.

--o--

SHIPPING SUBSIDIES.--Shipping companies, including those carrying imported fish to the U.S. in partially government-subsidized bottoms, may be in for a hard time in Congress next session. They may be asked to pay their own way--may lose subsidies.

Sen. John J. Williams (R., Del.) is preparing a bill to prohibit Federally-regulated water carriers from giving free or reduced transportation rates to Members of Congress, other public officials, or their families.

The Senator charges that practically all these companies are receiving substantial government subsidies, approved in many cases by the same public officials who are receiving free or lowered transportation rates. Williams charges that the taxpayer, meanwhile, pays the bill.

--o--

SALMON RELIEF.--The fishing industry apparently is coming up in the world in the minds of some Washington officials. The declaration of Alaskan salmon fishing communities as "disaster areas" puts them on a par with agricultural communities which have been given the "disaster" label. In both cases it means that emergency government relief will be supplied.

The disaster designation, while used frequently in agriculture because that industry is considered so important to national welfare, is not so widely known in the fishing industry which also is highly important to the nation's food and welfare.

Alaska salmon people are in bad shape because of the disastrously short pack this year. Government aid is now required to keep the industry alive and hold some stricken fishing communities in the business. The U.S. apparently will stake them to another season, hoping that it will be better and enable the salmon industry up there to regain its feet.

--o--

VAN CAMP IN SAMOA.--The Interior Department announces that a five-year lease for the fish cannery in American Samoa submitted by Van Camp Sea Food Company of San Pedro, Calif., has been accepted by the government of Samoa.

The company plans to train Samoans in fishing skills and to develop a fishery to supply the cannery with fish caught by Samoans.

--o--

NEW SHRIMP GROUND.--The Canadian government has announced a new shrimp-trawling ground developed during late 1952 off the Pacific Coast of Canada.

The new shrimp ground is located in the region of Stuart Channel along the lower east coast of Vancouver Island. Preliminary figures released by the Canadian Department of Fisheries show that during the months of December and January, 66,195 pounds of shrimp were caught in 183 trawling days.

--o--

FISH-FINDER.--The Norwegian developer of "Asdic," a new fish-locating device, plans to put it on the market soon. Price will be $5,000 to $6,000.

The fish-finder scans either automatically or manually to a distance of 5,900 feet on each side of the fishing vessel. It also can be used as a depth finder by drawing the transducer, which normally extends about 40 inches below the keel, up to the bottom of the hull.

In the pilothouse, the scanning device takes no more room than a depth-finder. It usually is mounted in the hold in a hole in the deck for access. It takes 130 to 140 watts to run the fish-finder.

For smaller craft, the Norwegians are developing a smaller version fish locater. This one can be coupled to a depth finder and used in conjunction with it. It can register fish within a radius of 1,640 feet. Cost, about $900.

Past, Present, Future

(Continued from page 24)

waters, some claiming as far as 200 miles seaward, as opposed to the traditionally accepted distance of 3 miles. Steps to iron out these difficulties have recently been placed in the hands of an industry group, in which fishermen and canners are both interested, called the Tuna Council of the Americas. The progress of this organization, operative for less than a year, has already shown promising results.

The Import Situation

The tuna industry's greatest problem, however, is that of imports, largely from Japan. Since the Japanese fleet and canning facilities were rehabilitated beginning in 1948, there has been a growing influx of canned tuna as well as frozen tuna. These imports have reached the proportion where they threaten the very life of the tuna industry in this country.

The duty on tuna canned in oil, which is the traditional method of packing tuna, has been 45%, which was effective in controlling imports to an amount with which our own industry could live. However, through a loophole in our tariffs brought about by a reciprocal trade agreement with Iceland, tuna packed in brine instead of oil is admitted into this country at a duty of only 12½%.

The Japanese have shifted the great bulk of their imports from tuna in oil to tuna in brine. This shift occurred in 1951, when 446,000 cases of this new product were imported. Imports of tuna in brine for 1952 increased to a total of 906,000 cases, and for the first eight months of 1953 (latest official figures available), 875,000 cases of tuna in brine have entered this country, an increase of 53% over imports for the same period a year ago.

While the volume of these imports is serious, it is not so serious at present as is the price depressing effect, for Japanese tuna in brine is offered for sale to the consumer at from 10c to 12c per can cheaper than its equivalent of domestic tuna packed in oil. The same import problem presents itself insofar as frozen tuna is concerned, which enters duty free. Imports of frozen tuna for the first eight months of this year are greater by far than any full year in history. Industry-wide programs are being formulated to combat this growing threat and are being worked on by all elements of the industry.

Despite the many problems, the tuna industry looks forward hopefully and confidently to a continued growth and expansion of the tuna industry through the increased appreciation of the American consumer for its nutrition, its economy and its versatility. ★

Harbor Conference

The second International Port and Harbor Conference with more than 300 delegates expected from the free world countries will take place in Los Angeles during November, 1954, announced Ralph D. Sweeney, vice president of the Los Angeles Harbor Commission.

First Conference was held last year in Japan in cooperation with the Japanese Government. Last month two Japanese officials flew here to complete details.

"Peaceful world trading among all free nations is the primary purpose of the International Port and Harbor Association," Sweeney said.

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Committee Appointments, International Conference

The appointment of permanent committees for the Eastern and Western Hemispheres to study experimentation and research in the design and construction of fishing boats and their safety and security of operation all over the world was another outstanding development of the International Fishing Boat Congress of 1953.

Just concluded, in Miami, Florida, was the second session of this Congress; the first being held earlier this year at Paris, France. Both meetings embraced the foremost Naval Architects and Marine Engineers from 26 countries throughout the World.

H. C. Hanson, naval architect, Seattle, Washington, was elected chairman; Wm. C. Miller, marine engineer, of San Diego, California, is secretary of the Western Hemisphere committee. Other members of this committee are Geo. C. Nickum, Seattle, Washington; Francis Minot, Woods Hole, Massachusetts; Dwight S. Simpson, Newton, Massachusetts; Howard I. Chapelle, Cambridge, Maryland; Jorge M. Sanchez A., Mexico, D. F.; and Carlos Santa Maria, New York City, N. Y.

Appointees from France, Ireland, Italy, Germany, Spain, and the United Kingdom formed the committee for studies in the Eastern Hemisphere. Both committees were established for the continuation of world effort to develop and extend interchange of technical information on all matters pertaining to design, construction, powering and safety in operation of fishing vessels, and to implement the wisdoms gained through technical papers presented and discussed at both meetings.

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The GLOBE

An International News File Compiled from FOREIGN REPORTS

Ecuador.—In a surprise move in October the Ecuadoran Senate adopted a resolution recommending that the Minister of Economy immediately implement the recommendations formulated at the United States-Ecuador Fishery Conference held at Quito last March and April. This resolution was made because the total revenues collected as a result of taxes on fishing suffered a deep decline, and the Senate believed this situation would be remedied by the adoption of the recommendations formulated in the Quito conference.

Australia.—A new fish and fruit cannery has been established at Ballina, New South Wales. The plant will can mullet and Australian salmon, and hopes to develop an export trade in canned shrimp.

About 60% of the total output will be fishery products. At the start it will handle 8,000 pounds of fish and 200 cases of fruit (in season) daily. The capacity could be easily doubled or trebled.

Argentine.—Various aspects of the fishery industry in Argentine waters "and its exploitation in the south of the Republic" was discussed at a meeting between the President of the Argentine Republic and a delegation of Japanese legislators. Details of the conversation were not revealed other than the fact that the legislators were "men of great experience in fishing activities in their country," according to a U. S. Embassy dispatch from Buenos Aires.

Canada.—As a step towards improvement in quality standards and inspection of fish generally, the Canadian Department of Fisheries has commenced a survey of plants producing fish for interprovincial or international trade. Cooperation of the industry in this program was sought by the Deputy Minister in the following letter to the Fishery Council of Canada:

"As you know, the establishing and maintaining of high standards of quality in Canadian fish and fish products sold on domestic and export markets has been a difficult problem for government and industry for many years. In general, the problem should be considered in respect to both the quality of the product and the conditions under which it was produced and packed.

"Along with the survey will be a critical examination of existing standards and techniques for fish and fish products and a consideration of new or improved standards which might be applied even to those species and products not subject to official inspection at this time."

Spain.—The largest and most modern freezing and cold-storage plant in Spain has been built on the Marques de Comillas pier in Cadiz, says a U. S. consular dispatch from Seville. Its greatest value is expected to be for the freezing and storage of fish and shellfish for subsequent export. This plant, said to be the first of a series, has completely modern deep-freeze installations. Operated by a Spanish Government corporation, it took three years to build and cost 45 million pesetas (US$2 million).

Great Britain.—Light landings due to foul weather early this fall have caused scarcity of fish and higher prices in Britain, reports a U. S. Embassy dispatch from London. This scarcity brought a suspension in the scheme whereby 20% of the distant-water trawlers at Hull and Grimsby have been laid up.

In general, landings from the Greenland banks were poor this summer, 40% less than a year ago. Grimbsy has been particularly hard hit by the poor catch in Greenland waters and Hull trawlers have been diverted to Grimsby to supply the fish merchants there.

Newfoundland.—The Canadian Federal Government will not take part in any plan to build new fish plants, curing stations, roads, or other special projects in Newfoundland, says a U. S. consular dispatch from St. Johns.

Federal help would be confined to works already begun; wharves, breakwaters, aids to navigation, experimental fishing, etc. The Canadian Premier said there are about 800 fishing settlements in Newfoundland and there never could be modern new fishing plants set up in all of them. Plans and surveys would go forward to determine which were the best ones and these would receive special development.

Mexico.—A favorable shrimp season is anticipated in the Sinaloa area, reports a U. S. consular dispatch from Mazatlan. Approximately 107,350,000 pesos (US$12,400,000) are invested in industrial enterprises in Mazatlan, a recent survey revealed. Mazatlan industry includes four shrimp-freezing plants with an investment of 22 million pesos (US$2.5 million); and a shrimp fishing fleet of 130 vessels (manned by 800 men) valued at 22 million pesos (US$2.5 million).

Greenland.—A survey of certain fishing grounds off the coast of Greenland is being sponsored in behalf of Great Britain trawlers. About $44,800 will go into a hydrographic survey to improve the detail of the bottom topography shown on Admiralty charts.

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